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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2638	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/944,877	CAROLI, CARL A.	
	Examiner	Art Unit	
	Hanh Phan	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 10/12/2005.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-In claim 6, lines 12-14, the phrase "**combining individual optical channels being added to the WDM input signal at the first optical interface with optical channels received from the other of the plurality of optical interfaces**" is not clear. The phrase "combining individual optical channels being added to the WDM input signal at the first optical interface with optical channels received from the other of the plurality of optical interfaces" should be changed to -- combining individual optical channels being added to a WDM output signal at the first optical interface with optical channels received from the other of the plurality of optical interfaces --.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Milton et al (US Patent No. 6,631,018).

Regarding claim 1, referring to Figures 3 and 4, Milton teaches a network element (i.e., a node in Fig. 3) coupled to a plurality of optical transmission paths (i.e., optical transmission paths 2 and 3, Fig. 3) via respective interfaces (i.e., a first interface on the left of the node comprises a demultiplexer 10, channel filters 18 and 19 and multiplexer 11 and a second interface on the right of the node comprises a demultiplexer 10, channel filters 18 and 19 and multiplexer 11 , Fig. 3) wherein the optical transmission path (i.e., optical transmission paths 2 and 3, Fig. 3) carries a wavelength division multiplexed (WDM) signal having a plurality of optical channels, the network element (i.e., a node in Fig. 3) comprising:

at each interface (i.e., at the first interface of the node), an add/drop routing element (i.e., demultiplexer 10, channel filters 18 and 19 and multiplexer 11, Fig. 3) for receiving a WDM input signal (i.e., receiving a WDM input signal on the transmission path 2 at the first interface of the node, Fig. 3) , for selectively dropping individual optical channels from the WDM input signal at the network element (i.e., demultiplexer 10 and channel filter 19, Fig. 3), for selectively adding individual optical channels for transmission in a WDM output signal (i.e., multiplexer 11 and channel filter 18, Fig. 3), the interface comprising a plurality of intra-node outputs for selectively routing individual

optical channels from the WDM input signal to any other interface (i.e., the second interface of the node) for transmission in any of the plurality of optical transmission paths (i.e., transmission path 13, Fig. 3)(col. 4, lines 59-67 and col. 5, lines 1-56).

Regarding claim 2, Milton further teaches the add/drop routing element includes:

an optical distributor portion (i.e., demultiplexer 10 and channel filter 19, Fig. 3) adapted for receiving the WDM input signal, for dropping selected optical channels from the WDM input signal, and for selectively routing remaining optical channels to one of the other interfaces; and

an optical combiner portion (i.e., multiplexer 11, channel filter 18, Fig. 3) adapted for adding individual optical channels to the WDM output signal and further adapted for receiving and combining optical channels supplied from one or more other add/drop routing elements associated with other interfaces with the individual optical channels being added to generate the WDM output signal .

Regarding claim 3, Milton further teaches the individual optical channels are capable of being selectively routed among any of the plurality of optical transmission paths via the respective interfaces (Fig. 3).

Regarding claim 4, Milton further teaches the optical distributor portion (i.e., demultiplexer 10 and channel filter 19, Fig. 3) includes an optical demultiplexer (i.e., demultiplexer 10) operable to separate individual optical channels in the WDM input signal so that selected optical channels can be dropped from the WDM input signal and so that individual optical channels not being dropped can be routed to one or more

interfaces associated with each of the other plurality of optical transmission paths (see Fig. 3).

Regarding claim 5, Milton further teaches the optical combiner portion (i.e., multiplexer 11 and channel filter 18, Fig. 3) includes an optical multiplexer (i.e., channel filer 18, Fig. 3) operable to selectively add individual optical channels at a respective interface; and an optical combiner (i.e., multiplexer 11, Fig. 3) for combining the optical channels being added at the respective interface with optical channels supplied from the one or more other add/drop routing elements associated with the other interfaces (see Fig. 3).

Regarding claims 6 and 7, referring to Figures 3 and 4, Milton discloses a method of selectively routing individual optical channels of a wavelength division multiplexed (WDM) signal at a node (i.e., a node in Fig. 3) having a plurality of optical interfaces (i.e., a first interface on the left of the node comprises a demultiplexer 10, channel filters 18 and 19 and multiplexer 11 and a second interface on the right of the node comprises a demultiplexer 10, channel filters 18 and 19 and multiplexer 11 , Fig. 3) each coupled to a respective optical transmission path (i.e., optical transmission paths 2 and 3 , Fig. 4), the method comprising:

receiving a WDM input signal (i.e., receiving a WDM input signal at the first interface of the node on the transmission path 2, Fig. 3) at a first optical interface ;

selectively dropping (i.e., demultiplexer 10 and channel filter 19, Fig. 3) individual optical channels from the WDM input signal at the first optical interface;

selectively routing individual optical channels (i.e., demultiplexer 10, Fig. 3) not being dropped at the first optical interface over a plurality of intra-node transmission paths (i.e., transmission path 13, Fig. 3) to one or more of the other of the plurality of optical interfaces (i.e., the second interface of the node) via a respective intra-node optical transmission path (i.e., transmission path 13) ; and

combining (i.e., channel filter 18, Fig. 3) individual optical channels being added to a WDM output signal at the first optical interface with optical channels received from the other of the plurality of optical interfaces (i.e., the second interface of the node) via the respective intra-node optical transmission paths (i.e., transmission path 13) for transmission as a WDM output signal from the node,

wherein individual optical channels are capable of being selectively routed among the plurality of optical transmission paths via the plurality of optical interfaces (col. 4, lines 59-67 and col. 5, lines 1-56).

6. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Duerksen (US Patent No. 6,608,709).

Regarding claim 1, referring to Figures 1, 3 and 4, Duerksen teaches a network element (i.e., a node in Fig. 1) coupled to a plurality of optical transmission paths (i.e., bidirectional transmission paths 5, Fig. 1) via respective interfaces (i.e., a first interface WEST-EAST of the node comprises optical circulators 10, 20 and 60, and optical channel selectors 25 and 55, and a second interface EAST- WEST of the node comprises optical circulators 30, 40 and 50, and optical channel selectors 25 and 55,

Fig. 1) wherein the optical transmission path (i.e., bidirectional transmission paths 5, Fig. 3) carries a wavelength division multiplexed (WDM) signal having a plurality of optical channels, the network element (i.e., the node in Fig. 1) comprising:

at each interface (i.e., at the first interface WEST-EAST of the node), an add/drop routing element (i.e., optical circulators 10, 20 and 60, and optical channel selectors 25 and 55, Fig. 1) for receiving a WDM input signal (i.e., receiving a WDM input signal comprising wavelengths $\lambda 1$, $\lambda 2$, $\lambda 3$... on the transmission path 5 at the first interface of the node, Fig. 1) , for selectively dropping individual optical channels from the WDM input signal at the network element (i.e., optical circulators 10 and 20 , and optical channel selector 25, Fig. 1), for selectively adding individual optical channels for transmission in a WDM output signal (i.e., optical circulators 10 and 60, and optical channel selector 55, Fig. 1), the interface comprising a plurality of intra-node outputs for selectively routing individual optical channels from the WDM input signal to any other interface (i.e., the second interface EAST-west of the node) for transmission in any of the plurality of optical transmission paths (i.e., transmission path 35, Fig. 1)(col. 3, lines 47-67, col. 4, lines 1-67, col. 5, lines 1-67 and col. 6, lines 1-40).

Regarding claim 2, Duerksen further teaches the add/drop routing element includes:

an optical distributor portion (i.e., optical circulators 10 and 20, and optical channel selector 25, Fig. 1) adapted for receiving the WDM input signal, for dropping selected optical channels from the WDM input signal, and for selectively routing remaining optical channels to one of the other interfaces; and

an optical combiner portion (i.e., optical circulators 10 and 60, and optical channel selector 55, Fig. 1) adapted for adding individual optical channels to the WDM output signal and further adapted for receiving and combining optical channels supplied from one or more other add/drop routing elements associated with other interfaces with the individual optical channels being added to generate the WDM output signal .

Regarding claim 3, Duerksen further teaches the individual optical channels are capable of being selectively routed among any of the plurality of optical transmission paths via the respective interfaces (Fig. 1).

Regarding claims 6 and 7, referring to Figures 1, 3 and 4, Duerksen discloses a method of selectively routing individual optical channels of a wavelength division multiplexed (WDM) signal at a node (i.e., a node in Fig. 1) having a plurality of optical interfaces (i.e., a first interface WEST-EAST of the node comprises optical circulators 10, 20 and 60, and optical channel selectors 25 and 55, and a second interface EAST-WEST of the node comprises optical circulators 30, 40 and 50, and optical channel selectors 25 and 55, Fig. 1) each coupled to a respective optical transmission path (i.e., bidirectional optical transmission paths 5 , Fig. 1), the method comprising:

receiving a WDM input signal (i.e., receiving a WDM input signal comprising wavelengths $\lambda 1$, $\lambda 2$, $\lambda 3$... on the transmission path 5 at the first interface of the node, Fig. 1) at a first optical interface ;

selectively dropping (i.e., optical circulator 10 and 20 and optical channel selector 25, Fig. 1) individual optical channels from the WDM input signal at the first optical interface;

selectively routing individual optical channels (i.e., optical circulator 10 and 20 and optical channel selector 25, Fig. 1) not being dropped at the first optical interface over a plurality of intra-node transmission paths (i.e., transmission path 35, Fig. 1) to one or more of the other of the plurality of optical interfaces (i.e., the second interface EAST-WEST of the node) via a respective intra-node optical transmission path (i.e., transmission path 35) ; and

combining (i.e., optical circulator 10 and 60 and optical channel selector 55, Fig. 1) individual optical channels being added to a WDM output signal at the first optical interface with optical channels received from the other of the plurality of optical interfaces (i.e., the second interface EAST-WEST of the node) via the respective intra-node optical transmission paths (i.e., transmission path 65) for transmission as a WDM output signal from the node,

wherein individual optical channels are capable of being selectively routed among the plurality of optical transmission paths via the plurality of optical interfaces (col. 3, lines 47-67, col. 4, lines 1-67, col. 5, lines 1-67 and col. 6, lines 1-40).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duerksen (US Patent No. 6,608,709) in view of by Milton et al (US Patent No. 6,631,018).

Regarding claim 4, Duerksen teaches all the aspects of the claimed invention except fails to teach the optical distributor portion includes an optical demultiplexer . However. Milton teaches the optical distributor portion includes an optical demultiplexer (Fig. 3, col. 4, lines 59-67 and col. 5, lines 1-56). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical distributor portion includes an optical demultiplexer as taught by Milton in the system of Duerksen. One of ordinary skill in the art would have been motivated to do this since Milton suggests in column 4, lines 59-67 and col. 5, lines 1-56 that using such optical distributor portion includes an optical demultiplexer has advantage of allowing separating the multiplexed signal into the individual signals.

Regarding claim 5, the combination of Duerksen and Milton teaches the optical combiner portion (i.e., multiplexer 11 and channel filter 18, Fig. 3 of Milton) includes an optical multiplexer (i.e., channel filer 18, Fig. 3 of Milton) operable to selectively add individual optical channels at a respective interface; and an optical combiner (i.e., multiplexer 11, Fig. 3 of Milton) for combining the optical channels being added at the respective interface with optical channels supplied from the one or more other add/drop routing elements associated with the other interfaces.

Response to Arguments

9. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER